

Environmental Equivalency Evaluation Index

Methodology to assess the oil outflow performance of alternative designs to the double hull oil tanker

This Environmental Equivalency Evaluation Index is established in accordance with amended Section 4115(e)(3) of the Oil Pollution Act of 1990 (46 U.S.C. 3703a note):

No later than one year after the date of enactment of the Coast Guard and Maritime Transportation Act of 2004, the Secretary shall, taking into account the recommendations contained in the report by the Marine Board of the National Research Council entitled 'Environmental Performance of Tanker Design in Collision and Grounding' and dated 2001, establish and publish an environmental equivalency evaluation index (including the methodology to develop that index) to assess overall outflow performance due to collisions and groundings for double hull tank vessels and alternative hull designs.

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Ref: (a) [IMO Resolution MEPC.110\(49\) Revised Interim Guidelines for the Approval of Alternative Methods of Design and Construction of Oil Tankers Under Regulation 13F\(5\) of Annex I of MARPOL 73/78 - \(adopted 18 July 2003\)](#)

The oil outflow analysis and calculation procedures in sections 4 through 7 of reference (a) are adopted as the *Environmental Equivalency Evaluation Index**, with the following modifications:

- The weighting factors in section 4.2 are modified as follows:
 $k_1 = 0.8$; $k_2 = 0.2$; $k_3 = 0.0$
- The following items are not applicable:
section 4.1.2.3; section 4.1.3; equation 4.3-3; any reference to “extreme oil outflow” or “extreme oil outflow parameter”
- The damage stability calculations in section 5.1.5.11 apply in all cases.
- For alternative designs that include “active” systems (use of valves, sensors, pumps, or other electrical/mechanical devices to mitigate oil outflow), in addition to the provisions in section 5.1.5.10, a quantitative life-cycle risk analysis must be conducted and the performance/reliability of the active system must be accounted for in the calculation of the mean oil outflow parameter in equation 4.3-2.

Note: Any unique safety risks associated with an alternative oil tanker design will be considered separately from the Environmental Equivalency Evaluation Index.

*Applies to alternative oil tanker designs of 5,000 to 350,000 DWT constructed of steel or other equivalent material; alternative designs outside this DWT range or constructed using non-metallic materials or impact-absorbing devices must be specially considered.